



Student Live Behaviour Monitoring During Online Classes Using AI

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Abstract-Many schools, colleges, and educational institutions are compelled to stop utilising their facilities for instructional reasons due to health issues like epidemics and other emergencies, hence many of them have shifted to virtual schooling. These academic institutions have all started to select digital technologies using tools like Google Meet, Microsoft Team, and Zoom to host classes and instruct learners. Academic achievement did not increase. The major goal of this project is to develop a system that will allow teachers to keep an eye on their pupils' behavior and gather useful information about the class.

Keywords: Facial recognition, visual attention, AI technology, Behaviour of Students.

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I. INTRODUCTION

This project will create an automatic supervision system that use webcam and microphone to automatically monitor users. The project is divided into two parts: visual and sound.

In the process of learning in both physical and virtual environments, attention is a key underlying skill. One way to determine if a student is paying attention in class is to look at his facial expressions. Face detection means computer programs that require automatic translation and identification of facial features and changes in facial data.

Tracking students' behaviours and moves are vital for teachers, which will easily pick out scholar misconduct or negligence within the classroom. By way of following scholar actions, schools or colleges can effortlessly recognize pupil behaviours and help college students and their parents to recognize their conduct and interest in the school room. Following the path, it'll assist college students to broaden and pay greater attention in class. Guardians will realize about their children's conduct inside the school room. Researcher's goal to introduce a brand new way of predicting pupil conduct (interest or apathy) based on facial reputation throughout a category

consultation. This shows real-time detection of scholar conduct.

II. PROPOSED SYSTEM

In the proposed system, practical wisdom is used to predict student behaviour in face-to-face online classes. It captures students' characteristics throughout the structure, analyzes the data based on eye movements, mouth movements, head movements, and different types of tasks involved in the analysis. For students working in this class, it runs. Image representations are used to indicate student progress.

Advantages of Proposed System:

1. It helps to understand the interest of the students in the respective class.
2. Teachers can make decisions about improving effective teaching methods

III. PROPOSED FRAMEWORK

As soon as the virtual meet begins, Open CV pre-processes the footage frame by frame.

It starts by attempting to recognise the participant's face. The face in the live feed is recognised using the Haar Cascade classifier.

By identifying the x-y coordinates of the primary facial features with the use of an open-source



library, 2D Facial Landmarks were produced on the picture and used to locate the position of the eyes. We will determine the opening and closing times for the 68 landmarks we have located.

The key two-dimensional landmarks on the user's face are used, along with their locations in three dimensions, to compute the posture of the image in order to determine the user's stance. All Python feature detections are implemented in the browser using web scraping to identify participant activity.

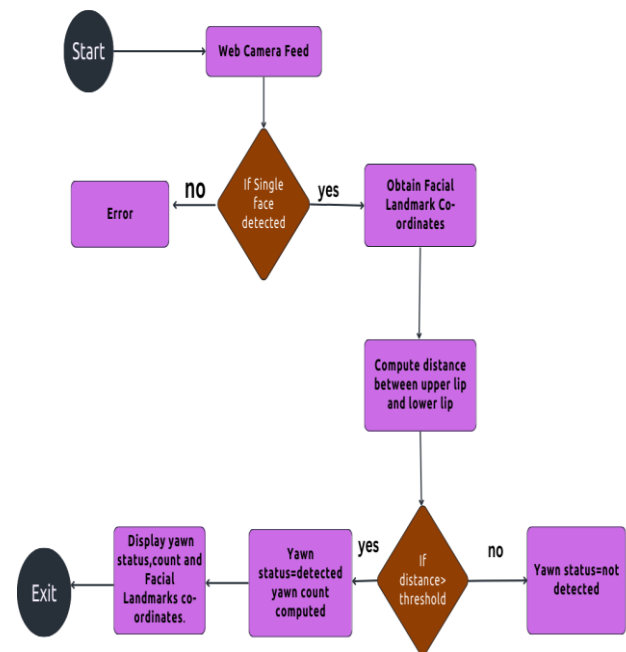
In this Project four behaviour of student is detected

- Facial Detection
- Eye Detection
- Yawn Detection
- Head Pose Detection

We've seen how computer vision was used to assess user behaviour by foretelling the student's head posture, sleepy eye movement, and yawning. We can observe that user emotional analysis may be implemented for the project's continued development.

Artificial intelligence makes life's day-to-day tasks easier and more organised. This application's delivery platform must be user- and educator-friendly. A high-quality camera would be beneficial for better outcomes, and students would need to remain in front of the camera constantly during class while also having uninterrupted power and network supply for ongoing student monitoring. Only in virtual courses where it is possible to recognise emotions may instructors use these programmes to gauge student attentiveness.

IV. DATA FLOW DIAGRAM



V. CONCLUSION

The goal of this research is to develop a system that automatically assists educators and associated professionals. The goal of this research is to develop a system that automatically aids teachers in their abilities to keep track on student behaviour. The system will play a significant role in the decision-making process. Students should constantly have strategic knowledge. Decision-makers get available strategies on an automated basis.

One of our first limitations is that we are ignorant of other important information, such as emotions. Numerous actions, including posture, facial expressions, and others, are ideal for future system development. The degree to which conduct and student results are correlated is a different problem that we wish to examine more thoroughly.

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